REMARKS

These Remarks are in reply to the Office Action mailed October 27, 2008. Claims 1, 2, 4-14 and 16-24 were pending in the Application prior to the outstanding Office Action. Claims 3 and 15 were previously cancelled. Claims 1, 2, 5, 9, 10, 13, 16 and 17 are currently being amended. No claims are currently being cancelled. New claims 25-31 are being added. Accordingly, claims 1, 2, 4-14 and 16-31 remain for the Examiner's consideration, with claims 1, 13, 25 and 29 being independent. Support for the above amendments and new claims are provided in the application as originally filed. Thus, no new matter has been added. In view of the above amendments and the remarks below, Applicants respectfully request that the outstanding rejections be reconsidered and withdrawn, and that a Notice of Allowance be issued.

I. Summary of Claim Rejections Under 35 U.S.C. 112

Claims 9 and 10 were rejected under 35 U.S.C. 112, second paragraph. Claims 9 and 10 have been amended to change the phrase "clip filter" to "filter". Such amendments are believed to overcome this rejection.

II. Summary of Claim Rejections Under 35 U.S.C. 101

Claims 13, 14, and 16-24 were rejected under 35 U.S.C. 101 for allegedly not falling within one of four statutory categories of invention. Independent claim 13 has been amended in a manner that is believed to overcome this rejection.

III. Summary of Claim Rejections Under 35 U.S.C. 102

Claims 1, 2, 4, 5, 8, 12, 13, 14, 16, 17, 20, and 24 were rejected under 35 U.S.C. 102(b) for allegedly being anticipated by U.S. Patent No. 5,493,296 to Sugihara (hereafter referred to as "Sugihara").

IV. Summary of Claim Rejections Under 35 U.S.C. 103

Claims 4, 9-11, 16, and 21-23 were rejected under 35 U.S.C. 103(a) for allegedly being unpatentable over Sugihara. Claims 6, 7, 18, and 19 were rejected under 35 U.S.C.

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103(a) as allegedly being unpatentable over Sugihara, and further in view of U.S. Patent No. 5,528,695 to Klippel (hereinafter referred to as "Klippel").

V.   Discussion of Claims

Claim 1, as amended, is reproduced below for the convenience of the Examiner.

1.   A system comprising:

a noise shaper configured to receive an input audio signal including a plurality of samples and perform a noise shaping process including re-quantizing the input audio signal to produce a processed audio signal and shifting quantization noise in the processed audio signal out of an audio band;

a detector coupled to the noise shaper and configured to detect clipping of the input audio signal in the noise shaper when a value of a sample of the input audio signal is outside a specified range of values, and not detect clipping when a value of a sample of the input audio signal is within the specified range of values;

a signal processor configured to receive a feedback signal indicative of whether clipping is detected by the detector;

wherein the signal processor is configured to modify the input audio signal in response to the feedback signal received from the detector, wherein the modification of the input audio signal is a function of the detected clipping.

In the Office Action, it was asserted that the subtraction node 15 in FIG. 1 of Sugihara teaches the claimed detector. Claim 1 has been amended to clarify that the detector is "coupled to the noise shaper and configured to detect clipping of the input audio signal in the noise shaper when a value of a sample of the input audio signal is outside a specified range of values, and not detect clipping when a value of a sample of the input audio signal is within the specified range of values". The subtraction node 15 in FIG. 1 of Sugihara appears to detect a difference between the input and output of the re-quantizer 13 of Sugihara, which results from there being a limited number of quantization levels. However, the subtraction

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node 15 in FIG. 1 of Sugihara is clearly not configured to "detect clipping of the input audio signal in the noise shaper when a value of a sample of the input audio signal is outside a specified range of values, and not detect clipping when a value of a sample of the input audio signal is within the specified range of values", as required by claim 1 as amended.

In the Office Action, it was asserted that the subtractive node 12 and the noise filter 16 of Sugihara teach the claimed signal processor of claim 1. Claim 1, as amended, specifies that the signal processor is "configured to receive a feedback signal indicative of whether clipping is detected by the detector; wherein the signal processor is configured to modify the input audio signal in response to the feedback signal received from the detector, wherein the modification of the input audio signal is a function of the detected clipping." Applicants assert that the noise filter 16 and subtractive node 12 of Sugihara are not configured to "receive a feedback signal indicative of whether clipping is detected by the detector", where clipping is detected "when a value of a sample of the input audio signal is outside a specified range of values" and clipping is not detected "when a value of a sample of the input audio signal is within the specified range of values", as required by claim 1. Further, the noise filter 16 and subtractive node 12 of Sugihara are not "configured to modify the input audio signal in response to the feedback signal received from the detector, wherein the modification of the input audio signal is a function of the detected clipping", as required by claim 1.

For at least the reasons specified above, Applicants respectfully request that the rejection of claim 1 be reconsidered and withdrawn. Klippel does not teach or suggest that above mentioned deficiencies of Sugihara.

Claims 2 and 4-12 depend from and add addition features to claim 1. Applicants assert that these claims are patentable for at least the reason that they depend from claim 1, as well as for the features that they add.

Claim 13, as amended, is believed to be patentable over Sugihara for similar reasons to those discussed above with regards to claim 1. For example, Applicants respectfully assert that Sugihara does not teach or suggest the step of "detecting clipping of the input audio signal in the noise shaper when a value of a sample of the input audio signal is outside a specified range of values, and not detecting clipping when a value of a sample of the input

audio signal is within the specified range of values", as required by claim 13. Further, Applicants respectfully assert that Sugihara does not teach or suggest "modifying the input audio signal as a function of the detected clipping in response to detecting the clipping of the input audio signal", as required by claim 13.

For at least the reasons specified above, Applicants respectfully request that the rejection of claim 13 be reconsidered and withdrawn. Klippel does not teach or suggest that above mentioned deficiencies of Sugihara.

Claims 14 and 16-24 depend from and add addition features to claim 13. Applicants assert that these claims are patentable for at least the reason that they depend from claim 13, as well as for the features that they add.

New claims 25-31 have been added. Applicants respectfully assert that the embodiments of these claims are not taught or suggested by Sugihra and Kippel, alone or in combination. For example, Sugihra and Kippel do not teach or suggest "a detector configured to detect limiting of the input audio signal by the noise shaper to a minimum or a maximum value when a value of a sample of the input audio signal is outside a range specified by the minimum and maximum values, and not detect limiting of the input audio signal to the minimum or the maximum value when a value of a sample of the input audio signal is within the range specified by the minimum and maximum values", as required by claim 25. Further, Sugihra and Kippel do not teach or suggest "a signal processor configured to receive a feedback signal indicative of whether limiting of the input audio signal to the minimum or maximum value is detected by the detector", as required by independent claim 25.

It is noted that the terms "maximum" and "minimum", as used in claims 25-31, can respectively refer to a greatest allowed positive value and a lowest allowed negative value. More specifically, the "maximum" value can be a number having a magnitude and positive polarity, and the "minimum" value can be a number of the same (or different) magnitude as the positive number, but opposite polarity (i.e., negative polarity). For example, a maximum value can be +200, and a minimum value can be -200, resulting in a range specified by the minimum and maximum values being -255 through +255.

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VI. Conclusion

In light of the above, it is respectfully requested that all outstanding rejections be reconsidered and withdrawn. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

The Commissioner is authorized to charge the required fees and any underpayment of fees or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this reply, including any fee for extension of time, which may be required.

Respectfully submitted,

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